

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25
SEQUENCE LISTING

10/591419

<110> Bayer CropScience GmbH

<120> Methods for identifying proteins with starch phosphorylating enzymatic activity

<130> BCS 04-5001-PCT

<150> EP04090483.1

<151> 2004-12-15

<150> EP04090121.7

<151> 2004-03-29

<150> EP04090087.0

<151> 2004-03-05

<150> US60/549,980 provisional

<151> 2004-03-05

<160> 26

<170> PatentIn version 3.1

<210> 1

<211> 3591

<212> DNA

<213> Arabidopsis thaliana

<220>

<221> CDS

<222> (1)..(3591)

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260 265 270

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gaa gat gga ggg cat cac cgt cca aac agg cat gcc gag att tcc aga Glu Asp Gly Gly His His Arg Pro Asn Arg His Ala Glu Ile Ser Arg 305	310	315	960
ctt ata ttc cgt gag ttg gag cac att tgc agt aag aaa gat gct act Leu Ile Phe Arg Glu Leu Glu His Ile Cys Ser Lys Lys Asp Ala Thr 325	330	335	1008
cca gag gaa gtg ctt gtt gct cgg aaa atc cat ccg tgt tta cct tct Pro Glu Glu Val Leu Val Ala Arg Lys Ile His Pro Cys Leu Pro Ser 340	345	350	1056
ttc aaa gca gag ttt act gca gct gtc cct cta act cggtt att agg gac Phe Lys Ala Glu Phe Thr Ala Ala Val Pro Leu Thr Arg Ile Arg Asp 355	360	365	1104
ata gcc cat cgg aat gat att cct cat gat ctc aag caa gaa atc aag Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile Lys 370	375	380	1152
cat acg ata caa aat aag ctt cac cgg aat gct ggt cca gaa gat cta His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp Leu 385	390	395	1200
att gca aca gaa gca atg ctt caa cga att acc gag acc cca gga aaa Ile Ala Thr Glu Ala Met Leu Gln Arg Ile Thr Glu Thr Pro Gly Lys 405	410	415	1248
tat agt gga gac ttt gtg gag cag ttt aaa ata ttc cat aat gag ctt Tyr Ser Gly Asp Phe Val Glu Gln Phe Lys Ile Phe His Asn Glu Leu 420	425	430	1296
aaa gat ttc ttt aat gct gga agt ctc act gaa cag ctt gat tct atg Lys Asp Phe Phe Asn Ala Gly Ser Leu Thr Glu Gln Leu Asp Ser Met 435	440	445	1344
aaa att tct atg gat gat aga ggt ctt tct gcg ctc aat ttg ttt ttt Lys Ile Ser Met Asp Asp Arg Gly Leu Ser Ala Leu Asn Leu Phe Phe 450	455	460	1392
gaa tgt aaa aag cgc ctt gac aca tca gga gaa tca agc aat gtt ttg Glu Cys Lys Lys Arg Leu Asp Thr Ser Gly Glu Ser Ser Asn Val Leu 465	470	475	1440
gag ttg att aaa acc atg cat tct cta gct tct tta aga gaa aca att Glu Leu Ile Lys Thr Met His Ser Leu Ala Ser Leu Arg Glu Thr Ile 485	490	495	1488
ata aag gaa ctt aat agc ggc ttg cga aat gat gct cct gat act gcc Ile Lys Glu Leu Asn Ser Gly Leu Arg Asn Asp Ala Pro Asp Thr Ala 500	505	510	1536
att gca atg cgc cag aag tgg cgc ctt tgt gag atc ggc ctc gag gac Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Gly Leu Glu Asp 515	520	525	1584
tac ttt ttt gtt cta cta agc aga ttc ctc aat gct ctt gaa act atg Tyr Phe Phe Val Leu Leu Ser Arg Phe Leu Asn Ala Leu Glu Thr Met			1632

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530 535 540

gga gga gct gat caa ctg gca aaa gat gtg gga tca aga aac gtt gcc Gly Gly Ala Asp Gln Leu Ala Lys Asp Val Gly Ser Arg Asn Val Ala 545 550 555 560	1680
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ggt cta tct got tgg aag caa gaa gaa tgt tta gcc att gga aat gaa Gly Leu Ser Gly Trp Lys Gln Glu Glu Cys Leu Ala Ile Gly Asn Glu 580 585 590	1776
ctc ctt gct tgg cga gaa agg gac cta ctt gaa aaa gaa ggg gaa gag Leu Leu Ala Trp Arg Glu Arg Asp Leu Leu Glu Lys Glu Gly Glu Glu 595 600 605	1824
gat gga aaa aca att tgg gcc atg agg ctg aaa gca act ctt gat cga Asp Gly Lys Thr Ile Trp Ala Met Arg Leu Lys Ala Thr Leu Asp Arg 610 615 620	1872
gca cgc aga tta aca gca gaa tat tct gat ttg ctt ctt caa ata ttt Ala Arg Arg Leu Thr Ala Glu Tyr Ser Asp Leu Leu Leu Gln Ile Phe 625 630 635 640	1920
cct cct aat gtg gag att tta gga aaa gct cta gga att cca gag aat Pro Pro Asn Val Glu Ile Leu Gly Lys Ala Leu Gly Ile Pro Glu Asn 645 650 655	1968
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ctt ggt tct gag ggc tgg gat gtc gtt gta cct gga tcg acg tct ggg Leu Gly Ser Glu Gly Trp Asp Val Val Val Pro Gly Ser Thr Ser Gly 690 695 700	2112
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att gtc ttt gtg aca tgt gat gat gat gac aag gtt gct gat ata cga Ile Val Phe Val Thr Cys Asp Asp Asp Asp Lys Val Ala Asp Ile Arg 770 775 780	2352
cga ctt gtg gga aaa ttt gtg agg ttg gaa gca tct cca agt cat gtg Arg Leu Val Gly Lys Phe Val Arg Leu Glu Ala Ser Pro Ser His Val 785 790 795 800	2400
aat ctg ata ctt tca act gag ggt agg agt cgc act tcc aaa tcc agt Asn Leu Ile Leu Ser Thr Glu Gly Arg Ser Arg Thr Ser Lys Ser Ser	2448

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805 810 815

gct acc aaa aaa acg gat aag aac agc tta tct aag aaa aaa aca gat Ala Thr Lys Lys Thr Asp Lys Asn Ser Leu Ser Lys Lys Lys Thr Asp 820 825 830	2496
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tct tcc aat agc ctc ctt tac tct tcc aag gat atc cct agt gga gga Ser Ser Asn Ser Leu Leu Tyr Ser Ser Lys Asp Ile Pro Ser Gly Gly 850 855 860	2592
atc ata gca ctt gct gat gca gat gta cca act tct ggt tca aaa tct Ile Ile Ala Leu Ala Asp Ala Asp Val Pro Thr Ser Gly Ser Lys Ser 865 870 875 880	2640
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cac agc gaa cac gga gtt ccg gca tca ttt aag gtt cca act gga gtt His Ser Glu His Gly Val Pro Ala Ser Phe Lys Val Pro Thr Gly Val 900 905 910	2736
gtc ata cct ttt gga tcg atg gaa tta gct tta aag caa aat aat tcg Val Ile Pro Phe Gly Ser Met Glu Leu Ala Leu Lys Gln Asn Asn Ser 915 920 925	2784
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Trp Arg Leu Ala Ser Gly Lys	Leu Asp Gly Ile Val	Gln Thr Leu	
1100	1105	1110	
gct ttc gca aac ttc agc gaa	gag ctt ctt gtg tca	gga aca ggt	3384
Ala Phe Ala Asn Phe Ser Glu	Glu Leu Leu Val Ser	Gly Thr Gly	
1115	1120	1125	
cct gct gat gga aaa tac gtt	cgg ttg acc gtg gac	tat agc aaa	3429
Pro Ala Asp Gly Lys Tyr Val	Arg Leu Thr Val Asp	Tyr Ser Lys	
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aaa cgt tta act gtt gac tcg	gtg ttt aga cag cag	ctc ggt cag	3474
Lys Arg Leu Thr Val Asp Ser	Val Phe Arg Gln Gln	Leu Gly Gln	
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aga ctc ggt tcg gtt ggt ttc	ttc ttg gaa aga aac	ttt ggc tgt	3519
Arg Leu Gly Ser Val Gly Phe	Phe Leu Glu Arg Asn	Phe Gly Cys	
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Ala Gln Asp Val Glu Gly Cys	Leu Val Gly Glu Asp	Val Tyr Ile	
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 35 40 45

Arg Leu Thr Cys Thr Ala Thr Ser Ser Ser Thr Ile Glu Glu Gln Arg
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Lys Lys Lys Asp Gly Ser Gly Thr Lys Val Arg Leu Asn Val Arg Leu
 65 70 75 80

Asp His Gln Val Asn Phe Gly Asp His Val Ala Met Phe Gly Ser Ala

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Lys Glu Ile Gly Ser Trp Lys Lys Ser Pro Leu Asn Trp Ser Glu
100 105 110

Asn Gly Trp Val Cys Glu Leu Glu Leu Asp Gly Gly Gln Val Leu Glu
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Tyr Lys Phe Val Ile Val Lys Asn Asp Gly Ser Leu Ser Trp Glu Ser
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Gly Asp Asn Arg Val Leu Lys Val Pro Asn Ser Gly Asn Phe Ser Val
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Val Cys His Trp Asp Ala Thr Arg Glu Thr Leu Asp Leu Pro Gln Glu
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Val Gly Asn Asp Asp Asp Val Gly Asp Gly Gly His Glu Arg Asp Asn
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His Asp Val Gly Asp Asp Arg Val Val Gly Ser Glu Asn Gly Ala Gln
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Leu Gln Lys Ser Thr Leu Gly Gly Gln Trp Gln Gly Lys Asp Ala Ser
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Phe Met Arg Ser Asn Asp His Gly Asn Arg Glu Val Gly Arg Asn Trp
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Asp Thr Ser Gly Leu Glu Gly Thr Ala Leu Lys Met Val Glu Gly Asp
245 250 255

Arg Asn Ser Lys Asn Trp Trp Arg Lys Leu Glu Met Val Arg Glu Val
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Ile Val Gly Ser Val Glu Arg Glu Glu Arg Leu Lys Ala Leu Ile Tyr
275 280 285

Ser Ala Ile Tyr Leu Lys Trp Ile Asn Thr Gly Gln Ile Pro Cys Phe
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Glu Asp Gly Gly His His Arg Pro Asn Arg His Ala Glu Ile Ser Arg
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Leu Ile Phe Arg Glu Leu Glu His Ile Cys Ser Lys Lys Asp Ala Thr
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Pro Glu Glu Val Leu Val Ala Arg Lys Ile His Pro Cys Leu Pro Ser
340 345 350

Phe Lys Ala Glu Phe Thr Ala Ala Val Pro Leu Thr Arg Ile Arg Asp
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Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile Lys
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His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp Leu
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Ile Ala Thr Glu Ala Met Leu Gln Arg Ile Thr Glu Thr Pro Gly Lys
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Tyr Ser Gly Asp Phe Val Glu Gln Phe Lys Ile Phe His Asn Glu Leu
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Lys Ile Ser Met Asp Asp Arg Gly Leu Ser Ala Leu Asn Leu Phe Phe
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Glu Cys Lys Lys Arg Leu Asp Thr Ser Gly Glu Ser Ser Asn Val Leu
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Glu Leu Ile Lys Thr Met His Ser Leu Ala Ser Leu Arg Glu Thr Ile
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Tyr Phe Phe Val Leu Leu Ser Arg Phe Leu Asn Ala Leu Glu Thr Met
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Gly Leu Ser Gly Trp Lys Gln Glu Glu Cys Leu Ala Ile Gly Asn Glu
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Asp Gly Lys Thr Ile Trp Ala Met Arg Leu Lys Ala Thr Leu Asp Arg
610 615 620

Ala Arg Arg Leu Thr Ala Glu Tyr Ser Asp Leu Leu Leu Gln Ile Phe
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625 BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25
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Ser Val Lys Thr Tyr Thr Glu Ala Glu Ile Arg Ala Gly Ile Ile Phe
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Gln Ile Ser Lys Leu Cys Thr Val Leu Leu Lys Ala Val Arg Asn Ser
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Leu Gly Ser Glu Gly Trp Asp Val Val Val Pro Gly Ser Thr Ser Gly
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Ser Gly Gly Pro Ile Ile Leu Leu Val Asn Lys Ala Asp Gly Asp Glu
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Glu Val Ser Ala Ala Asn Gly Asn Ile Ala Gly Val Met Leu Leu Gln
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Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg Gln Glu Lys
755 760 765

Ile Val Phe Val Thr Cys Asp Asp Asp Asp Lys Val Ala Asp Ile Arg
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785 790 795 800

Asn Leu Ile Leu Ser Thr Glu Gly Arg Ser Arg Thr Ser Lys Ser Ser
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Ala Thr Lys Lys Thr Asp Lys Asn Ser Leu Ser Lys Lys Thr Asp
820 825 830

Lys Lys Ser Leu Ser Ile Asp Asp Glu Glu Ser Lys Pro Gly Ser Ser
835 840 845

Ser Ser Asn Ser Leu Leu Tyr Ser Ser Lys Asp Ile Pro Ser Gly Gly
850 855 860

Ile Ile Ala Leu Ala Asp Ala Asp Val Pro Thr Ser Gly Ser Lys Ser
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Ala Ala Cys Gly Leu Leu Ala Ser Leu Ala Glu Ala Ser Ser Lys Val
885 890 895

His Ser Glu His Gly Val Pro Ala Ser Phe Lys Val Pro Thr Gly Val
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930 935 940Glu Gly Gly Glu Leu Asp Asp Ile Cys Asp Gln Ile His Glu Val Met
945 950 955 960Lys Thr Leu Gln Val Pro Lys Glu Thr Ile Asn Ser Ile Ser Lys Ala
965 970 975Phe Leu Lys Asp Ala Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu
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995 1000 1005val Ser Pro Ser Asp Pro Leu Val Phe Ser Asp Ser Val Cys Gln
1010 1015 1020val Trp Ala Ser Leu Tyr Thr Arg Arg Ala Val Leu Ser Arg Arg
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1040 1045 1050Gln Glu Met Leu Ser Pro Asp Leu Ser Phe Val Leu His Thr Val
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1070 1075 1080Pro Gly Leu Gly Glu Thr Leu Ala Ser Gly Thr Arg Gly Thr Pro
1085 1090 1095Trp Arg Leu Ala Ser Gly Lys Leu Asp Gly Ile Val Gln Thr Leu
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1145 1150 1155Arg Leu Gly Ser Val Gly Phe Phe Leu Glu Arg Asn Phe Gly Cys
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 Ala Gly Val Leu Leu Arg Arg Gly Ala Met Ala Leu Pro Gly Arg Arg
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 Lys Glu Lys Lys Arg Arg Asp Ser Ser Lys Gln Pro Leu Val His Leu
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cag gtt tgt cta gag cac cag gtt aag ttt ggt gag cat gta ggc att 291
 Gln Val Cys Leu Glu His Gln Val Lys Phe Gly Glu His Val Gly Ile
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 Thr Leu Val Glu Phe Lys Phe Val Ile Phe Leu Val Gly Gly Lys Asp
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430 435 440 445	
gat ttc ttc aat gct ggc agc cta ttt gag caa ctg gag tcc atc aag Asp Phe Phe Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys	1395
450 455 460	
gaa tct ctg aac gag tca ggc tta gaa gtt ctc tca tcc ttt gtg gaa Glu Ser Leu Asn Glu Ser Gly Leu Glu Val Leu Ser Ser Phe Val Glu	1443
465 470 475	
acc aaa agg agt ttg gac caa gtg gat cat gca gaa gat ttg gat aaa Thr Lys Arg Ser Leu Asp Gln Val Asp His Ala Glu Asp Leu Asp Lys	1491
480 485 490	
aat gat acc att caa att ttg atg act acc ttg caa tca tta tct tct Asn Asp Thr Ile Gln Ile Leu Met Thr Thr Leu Gln Ser Leu Ser Ser	1539
495 500 505	
cta aga tcg gtt cta atg aag ggc ctt gaa agt ggc ctt aga aat gat Leu Arg Ser Val Leu Met Lys Gly Leu Glu Ser Gly Leu Arg Asn Asp	1587
510 515 520 525	
gcg cct gat aat gct ata gca atg cga caa aag tgg cgc ctt tgt gaa Ala Pro Asp Asn Ala Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu	1635
530 535 540	
att agt ctt gag gat tat tca ttt gtt ctg tta agc aga ttc atc aat Ile Ser Leu Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Phe Ile Asn	1683
545 550 555	
act ctt gaa gcc tta ggt gga tca gct tca ctt gca aag gat gta gct Thr Leu Glu Ala Leu Gly Gly Ser Ala Ser Leu Ala Lys Asp Val Ala	1731
560 565 570	
aga aat act act cta tgg gat act act ctt gat gcc ctt gtc att ggc Arg Asn Thr Thr Leu Trp Asp Thr Thr Leu Asp Ala Leu Val Ile Gly	1779
575 580 585	
atc aat caa gtt agc ttt tca ggt tgg aaa aca gat gaa tgt att gcc Ile Asn Gln Val Ser Phe Ser Gly Trp Lys Thr Asp Glu Cys Ile Ala	1827
590 595 600 605	
ata ggg aat gag att ctt tcc tgg aag caa aaa ggt cta tct gaa agt Ile Gly Asn Glu Ile Leu Ser Trp Lys Gln Lys Gly Leu Ser Glu Ser	1875
610 615 620	
gaa ggt tgt gaa gat ggg aaa tat att tgg tca cta aga ctt aaa gct Glu Gly Cys Glu Asp Gly Lys Tyr Ile Trp Ser Leu Arg Leu Lys Ala	1923
625 630 635	
aca ctg gac aga gca cgg aga tta acg gaa gag tac tct gaa gca ctt Thr Leu Asp Arg Ala Arg Arg Leu Thr Glu Glu Tyr Ser Glu Ala Leu	1971
640 645 650	
ctt tct ata ttc cct gaa aaa gta atg gtt att ggg aaa gcc ctt gga Leu Ser Ile Phe Pro Glu Lys Val Met Val Ile Gly Lys Ala Leu Gly	2019
655 660 665	
ata cca gat aac agt gtg aga act tac aca gag gca gaa att cgt gct Ile Pro Asp Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile Arg Ala	2067
670 675 680 685	

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

ggc att gtt ttt cag gta tct aaa cta tgc aca gta ctt cag aaa gca	2115
Gly Ile Val Phe Gln Val Ser Lys Leu Cys Thr Val Leu Gln Lys Ala	
690 695 700	
att cga gaa gta ctt gga tca act ggc tgg gat gtt ctt gtt cct gga	2163
Ile Arg Glu Val Leu Gly Ser Thr Gly Trp Asp Val Leu Val Pro Gly	
705 710 715	
gtg gcc cat gga act ctg atg cgg gtg gaa aga att ctt cct gga tca	2211
Val Ala His Gly Thr Leu Met Arg Val Glu Arg Ile Leu Pro Gly Ser	
720 725 730	
tta cct tca tct gtc aaa gaa cct gtg gtt cta att gta gat aag gct	2259
Leu Pro Ser Ser Val Lys Glu Pro Val Val Leu Ile Val Asp Lys Ala	
735 740 745	
gat gga gat gaa gag gtc aaa gct gct ggg gat aat ata gtt ggt gtt	2307
Asp Gly Asp Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val Gly Val	
750 755 760 765	
att ctt ctt cag gaa cta cct cac ctt tca cat ctt ggt gtt aga gct	2355
Ile Leu Leu Gln Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala	
770 775 780	
cgt caa gag aat gtt gta ttt gta act tgt gaa tat gat gac aca gtt	2403
Arg Gln Glu Asn Val Val Phe Val Thr Cys Glu Tyr Asp Asp Thr Val	
785 790 795	
aca gat gtg tat ttg ctt gag gga aaa tat atc aga tta gaa gca tca	2451
Thr Asp Val Tyr Leu Leu Glu Gly Lys Tyr Ile Arg Leu Glu Ala Ser	
800 805 810	
tcc atc aat gtc aat ctc tca ata gtt tca gaa aaa aat gac aat gct	2499
Ser Ile Asn Val Asn Leu Ser Ile Val Ser Glu Lys Asn Asp Asn Ala	
815 820 825	
gtc tct aca gaa cca aat agt aca ggg aat cca ttt caa cag aaa ctc	2547
Val Ser Thr Glu Pro Asn Ser Thr Gly Asn Pro Phe Gln Gln Lys Leu	
830 835 840 845	
caa aat gaa ttc tct cta cca tcg gat atc gag atg cca ctg caa atg	2595
Gln Asn Glu Phe Ser Leu Pro Ser Asp Ile Glu Met Pro Leu Gln Met	
850 855 860	
tct aag caa aaa agc aaa tca gga gtg aat ggt agt ttt gct gct ctt	2643
Ser Lys Gln Lys Ser Lys Ser Gly Val Asn Gly Ser Phe Ala Ala Leu	
865 870 875	
gag ctt tca gaa gct tca gtg gaa tca gct ggt gca aaa gct gct gca	2691
Glu Leu Ser Glu Ala Ser Val Glu Ser Ala Gly Ala Lys Ala Ala Ala	
880 885 890	
tgc aga act ctt tct gtt ctt gct tca ttg tct aat aaa gtc tat agt	2739
Cys Arg Thr Leu Ser Val Leu Ala Ser Leu Ser Asn Lys Val Tyr Ser	
895 900 905	
gat caa gga gtt cca gca gcc ttt aga gtc cct tct ggt gct gtg ata	2787
Asp Gln Gly Val Pro Ala Ala Phe Arg Val Pro Ser Gly Ala Val Ile	
910 915 920 925	
cca ttt gga tca atg gag gat gcg ctc aag aaa agt gga tca ctg gaa	2835
Pro Phe Gly Ser Met Glu Asp Ala Leu Lys Lys Ser Gly Ser Leu Glu	
930 935 940	
tcc ttt aca agc ctt cta gaa aag att gaa aca gcc aaa gtc gaa aat	2883
Ser Phe Thr Ser Leu Leu Glu Lys Ile Glu Thr Ala Lys Val Glu Asn	
945 950 955	

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

ggt gaa gtt gat agc ctg gcg ttg gag cta caa gca ata att tca cat	2931
Gly Glu Val Asp Ser Leu Ala Leu Glu Leu Gln Ala Ile Ile Ser His	
960 965 970	
ctt tcc cca ccg gag gag act att ata ttt ctc aaa aga atc ttc cca	2979
Leu Ser Pro Pro Glu Glu Thr Ile Ile Phe Leu Lys Arg Ile Phe Pro	
975 980 985	
cag gat gtc cggtt gat gtt aga tct agt gct aat gtg gag gat ttg	3027
Gln Asp Val Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu Asp Leu	
990 995 1000 1005	
gct ggt atg tca gct gct ggt ctc tat gat tca att ccc aat gtc	3072
Ala Gly Met Ser Ala Ala Gly Leu Tyr Asp Ser Ile Pro Asn Val	
1010 1015 1020	
agt ctc atg gac cca tgt gcc ttt gga gct gcg gtt ggg aag gtt	3117
Ser Leu Met Asp Pro Cys Ala Phe Gly Ala Ala Val Gly Lys Val	
1025 1030 1035	
tgg gct tct tta tac aca agg aga gcc atc cta agc cgt cga gcc	3162
Trp Ala Ser Leu Tyr Thr Arg Arg Ala Ile Leu Ser Arg Arg Ala	
1040 1045 1050	
gct ggt gtt tat cag aga gac gcg aca atg gct gtt ctt gtc caa	3207
Ala Gly Val Tyr Gln Arg Asp Ala Thr Met Ala Val Leu Val Gln	
1055 1060 1065	
gaa ata ctg cag cca gat ctc tcc ttc gtg ctt cat act gtt tgc	3252
Glu Ile Leu Gln Pro Asp Leu Ser Phe Val Leu His Thr Val Cys	
1070 1075 1080	
ccc gct gac cat gac ccc aag gtt gtc cag gct gag gtc gcc cct	3297
Pro Ala Asp His Asp Pro Lys Val Val Gln Ala Glu Val Ala Pro	
1085 1090 1095	
ggg ctg ggt gaa acg ctt gct tca gga acc cgt ggc acc ccg tgg	3342
Gly Leu Gly Glu Thr Leu Ala Ser Gly Thr Arg Gly Thr Pro Trp	
1100 1105 1110	
agg ctg tca tgt aac aaa ttc gat gga aaa gtt gcc act ctt gcc	3387
Arg Leu Ser Cys Asn Lys Phe Asp Gly Lys Val Ala Thr Leu Ala	
1115 1120 1125	
ttt tca aat ttc agt gag gag atg gtg gtg cac aac tct ggt cct	3432
Phe Ser Asn Phe Ser Glu Glu Met Val Val His Asn Ser Gly Pro	
1130 1135 1140	
gcc aat gga gaa gta att cgt ctt act gtt gat tac agc aag aag	3477
Ala Asn Gly Glu Val Ile Arg Leu Thr Val Asp Tyr Ser Lys Lys	
1145 1150 1155	
cca ttg tcg gtt gat aca acc ttt agg aag cag ttt ggt cag cga	3522
Pro Leu Ser Val Asp Thr Thr Phe Arg Lys Gln Phe Gly Gln Arg	
1160 1165 1170	
ctg gct gcg att ggc cag tat ctg gag cag aag ttc ggg agt gca	3567
Leu Ala Ala Ile Gly Gln Tyr Leu Glu Gln Lys Phe Gly Ser Ala	
1175 1180 1185	
cag gat gtg gaa ggt tgc ctg gtt ggg aaa gat att ttt ata gtg	3612
Gln Asp Val Glu Gly Cys Leu Val Gly Lys Asp Ile Phe Ile Val	
1190 1195 1200	
caa agc agg cca cag cca tag aagccgaatt c	3644
Gln Ser Arg Pro Gln Pro	
1205	

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<210> 4

<211> 1206

<212> PRT

<213> Oryza sativa

<400> 4

Met Thr Ser Leu Arg Pro Leu Glu Thr Ser Leu Ser Ile Gly Gly Arg
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20 25 30Leu Leu Arg Arg Gly Ala Met Ala Leu Pro Gly Arg Arg Gly Phe Ala
35 40 45Cys Arg Gly Arg Ser Ala Ala Ser Ala Ala Glu Arg Thr Lys Glu Lys
50 55 60Lys Arg Arg Asp Ser Ser Lys Gln Pro Leu Val His Leu Gln Val Cys
65 70 75 80Leu Glu His Gln Val Lys Phe Gly Glu His Val Gly Ile Ile Gly Ser
85 90 95Thr Lys Glu Leu Gly Ser Trp Glu Glu Gln Val Glu Leu Glu Trp Thr
100 105 110Thr Asn Gly Trp Val Cys Gln Leu Lys Leu Pro Gly Glu Thr Leu Val
115 120 125Glu Phe Lys Phe Val Ile Phe Leu Val Gly Gly Lys Asp Lys Ile Trp
130 135 140Glu Asp Gly Asn Asn Arg Val Val Glu Leu Pro Lys Asp Gly Lys Phe
145 150 155 160Asp Ile Val Cys His Trp Asn Arg Thr Glu Glu Pro Leu Glu Leu Leu
165 170 175Gly Thr Pro Lys Phe Glu Leu Val Gly Glu Ala Glu Lys Asn Thr Gly
180 185 190Glu Asp Ala Ser Ala Ser Val Thr Phe Ala Pro Glu Lys Val Gln Asp
195 200 205Ile Ser Val Val Glu Asn Gly Asp Pro Ala Pro Glu Ala Glu Ser Ser
210 215 220

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Lys Phe Gly Gly Gln Trp Gln Gly Ser Lys Thr Val Phe Met Arg Ser
225 230 235 240

Asn Glu His Leu Asn Lys Glu Ala Asp Arg Met Trp Asp Thr Thr Gly
245 250 255

Leu Asp Gly Ile Ala Leu Lys Leu Val Glu Gly Asp Lys Ala Ser Arg
260 265 270

Asn Trp Trp Arg Lys Leu Glu Val Val Arg Gly Ile Leu Ser Glu Ser
275 280 285

Phe Asp Asp Gln Ser Arg Leu Gly Ala Leu Val Tyr Ser Ala Ile Tyr
290 295 300

Leu Lys Trp Ile Tyr Thr Gly Gln Ile Ser Cys Phe Glu Asp Gly Gly
305 310 315 320

His His Arg Pro Asn Lys His Ala Glu Ile Ser Arg Gln Ile Phe Arg
325 330 335

Glu Leu Glu Met Met Tyr Tyr Gly Lys Thr Thr Ser Ala Lys Asp Val
340 345 350

Leu Val Ile Arg Lys Ile His Pro Phe Leu Pro Ser Phe Lys Ser Glu
355 360 365

Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg Asp Ile Ala His Arg
370 375 380

Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile Lys His Thr Ile Gln
385 390 395 400

Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp Leu Ile Ala Thr Glu
405 410 415

Val Met Leu Ala Arg Ile Thr Lys Thr Pro Gly Glu Tyr Ser Glu Thr
420 425 430

Phe Val Glu Gln Phe Thr Ile Phe Tyr Ser Glu Leu Lys Asp Phe Phe
435 440 445

Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys Glu Ser Leu
450 455 460

Asn Glu Ser Gly Leu Glu Val Leu Ser Ser Phe Val Glu Thr Lys Arg
465 470 475 480

Ser Leu Asp Gln Val Asp His Ala Glu Asp Leu Asp Lys Asn Asp Thr
485 490 495

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Ile Gln Ile Leu Met Thr Thr Leu Gln Ser Leu Ser Ser Leu Arg Ser
500 505 510

Val Leu Met Lys Gly Leu Glu Ser Gly Leu Arg Asn Asp Ala Pro Asp
515 520 525

Asn Ala Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Ser Leu
530 535 540

Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Phe Ile Asn Thr Leu Glu
545 550 555 560

Ala Leu Gly Gly Ser Ala Ser Leu Ala Lys Asp Val Ala Arg Asn Thr
565 570 575

Thr Leu Trp Asp Thr Thr Leu Asp Ala Leu Val Ile Gly Ile Asn Gln
580 585 590

Val Ser Phe Ser Gly Trp Lys Thr Asp Glu Cys Ile Ala Ile Gly Asn
595 600 605

Glu Ile Leu Ser Trp Lys Gln Lys Gly Leu Ser Glu Ser Glu Gly Cys
610 615 620

Glu Asp Gly Lys Tyr Ile Trp Ser Leu Arg Leu Lys Ala Thr Leu Asp
625 630 635 640

Arg Ala Arg Arg Leu Thr Glu Glu Tyr Ser Glu Ala Leu Leu Ser Ile
645 650 655

Phe Pro Glu Lys Val Met Val Ile Gly Lys Ala Leu Gly Ile Pro Asp
660 665 670

Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile Arg Ala Gly Ile Val
675 680 685

Phe Gln Val Ser Lys Leu Cys Thr Val Leu Gln Lys Ala Ile Arg Glu
690 695 700

Val Leu Gly Ser Thr Gly Trp Asp Val Leu Val Pro Gly Val Ala His
705 710 715 720

Gly Thr Leu Met Arg Val Glu Arg Ile Leu Pro Gly Ser Leu Pro Ser
725 730 735

Ser Val Lys Glu Pro Val Val Leu Ile Val Asp Lys Ala Asp Gly Asp
740 745 750

Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val Gly Val Ile Leu Leu
755 760 765

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Gln Glu Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg Gln Glu
 770 775 780

Asn Val Val Phe Val Thr Cys Glu Tyr Asp Asp Thr Val Thr Asp Val
 785 790 795 800

Tyr Leu Leu Glu Gly Lys Tyr Ile Arg Leu Glu Ala Ser Ser Ile Asn
 805 810 815

Val Asn Leu Ser Ile Val Ser Glu Lys Asn Asp Asn Ala Val Ser Thr
 820 825 830

Glu Pro Asn Ser Thr Gly Asn Pro Phe Gln Gln Lys Leu Gln Asn Glu
 835 840 845

Phe Ser Leu Pro Ser Asp Ile Glu Met Pro Leu Gln Met Ser Lys Gln
 850 855 860

Lys Ser Lys Ser Gly Val Asn Gly Ser Phe Ala Ala Leu Glu Leu Ser
 865 870 875 880

Glu Ala Ser Val Glu Ser Ala Gly Ala Lys Ala Ala Ala Cys Arg Thr
 885 890 895

Leu Ser Val Leu Ala Ser Leu Ser Asn Lys Val Tyr Ser Asp Gln Gly
 900 905 910

Val Pro Ala Ala Phe Arg Val Pro Ser Gly Ala Val Ile Pro Phe Gly
 915 920 925

Ser Met Glu Asp Ala Leu Lys Lys Ser Gly Ser Leu Glu Ser Phe Thr
 930 935 940

Ser Leu Leu Glu Lys Ile Glu Thr Ala Lys Val Glu Asn Gly Glu Val
 945 950 955 960

Asp Ser Leu Ala Leu Glu Leu Gln Ala Ile Ile Ser His Leu Ser Pro
 965 970 975

Pro Glu Glu Thr Ile Ile Phe Leu Lys Arg Ile Phe Pro Gln Asp Val
 980 985 990

Arg Leu Ile Val Arg Ser Ser Ala Asn Val Glu Asp Leu Ala Gly Met
 995 1000 1005

Ser Ala Ala Gly Leu Tyr Asp Ser Ile Pro Asn Val Ser Leu Met
 1010 1015 1020

Asp Pro Cys Ala Phe Gly Ala Ala Val Gly Lys Val Trp Ala Ser
 1025 1030 1035

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Leu Tyr Thr Arg Arg Ala Ile Leu Ser Arg Arg Ala Ala Gly Val
1040 1045 1050

Tyr Gln Arg Asp Ala Thr Met Ala Val Leu Val Gln Glu Ile Leu
1055 1060 1065

Gln Pro Asp Leu Ser Phe Val Leu His Thr Val Cys Pro Ala Asp
1070 1075 1080

His Asp Pro Lys Val Val Gln Ala Glu Val Ala Pro Gly Leu Gly
1085 1090 1095

Glu Thr Leu Ala Ser Gly Thr Arg Gly Thr Pro Trp Arg Leu Ser
1100 1105 1110

Cys Asn Lys Phe Asp Gly Lys Val Ala Thr Leu Ala Phe Ser Asn
1115 1120 1125

Phe Ser Glu Glu Met Val Val His Asn Ser Gly Pro Ala Asn Gly
1130 1135 1140

Glu Val Ile Arg Leu Thr Val Asp Tyr Ser Lys Lys Pro Leu Ser
1145 1150 1155

Val Asp Thr Thr Phe Arg Lys Gln Phe Gly Gln Arg Leu Ala Ala
1160 1165 1170

Ile Gly Gln Tyr Leu Glu Gln Lys Phe Gly Ser Ala Gln Asp Val
1175 1180 1185

Glu Gly Cys Leu Val Gly Lys Asp Ile Phe Ile Val Gln Ser Arg
1190 1195 1200

Pro Gln Pro
1205

<210> 5

<211> 12

<212> PRT

<213> Oryza sativa, Arabidopsis thaliana, Sorghum bicolor

<400> 5

Leu Pro His Leu Ser His Leu Gly Val Arg Ala Arg
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<210> 6

<211> 7

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<212> PRT

<213> Hordeum vulgare

<400> 6

Ser Arg Arg Val Ala Gly Val
1 5

<210> 7

<211> 7

<212> PRT

<213> Hordeum vulgare

<400> 7

Val Glu Ala Glu Val Ala Pro
1 5

<210> 8

<211> 9

<212> PRT

<213> Hordeum vulgare

<400> 8

His Thr Val Ser Pro Ser Asp His Asp
1 5

<210> 9

<211> 807

<212> DNA

<213> Hordeum vulgare

<220>

<221> CDS

<222> (3)..(590)

<223>

<400> 9

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Ala Arg Gly Val Leu Pro Asn Val Ser Leu Ser Asp Pro Thr Asn

47

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25
1 5 10 15

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20 25 30	
gcc atc ctc agc cgc cggtt gtc gct ggc gtgtt ccc cag agg gac gcc aag Ala Ile Leu Ser Arg Arg Val Ala Gly Val Pro Gln Arg Asp Ala Lys	143
35 40 45	
atg gct gtc ctgtt gtgtt cag gag atg ctgtt gag cca gag cta tcc ttc gtgtt Met Ala Val Leu Val Gln Glu Met Leu Glu Pro Glu Leu Ser Phe Val	191
50 55 60	
ctc cac acg gtc agc ccc tcgtt gac cac gac acc agg gtc gtc gag gct Leu His Thr Val Ser Pro Ser Asp His Asp Thr Arg Val Val Glu Ala	239
65 70 75	
gag gtt gcc ccgtt ggg ctgtt ggc gag acc ctt gcc gct ggc acc cgc ggc Glu Val Ala Pro Gly Leu Gly Glu Thr Leu Ala Ala Gly Thr Arg Gly	287
80 85 90 95	
acc ccgtt tgg cgtt ctc tcc tgc gac aag ttgtt gac acc gac gtc gcc acc Thr Pro Trp Arg Leu Ser Cys Asp Lys Phe Asp Thr Asp Val Ala Thr	335
100 105 110	
ctgtt gcc ttcc gccc aac ttcc agttt gag atgtt cgtt gtgtt ctc ggc tcgtt ggc Leu Ala Phe Ala Asn Phe Ser Glu Glu Met Arg Val Leu Gly Ser Gly	383
115 120 125	
cccgcc gac ggc gag gtgtt gtgtt agg ctc act gtc gac tac agc acg aag Pro Ala Asp Gly Glu Val Val Arg Leu Thr Val Asp Tyr Ser Thr Lys	431
130 135 140	
ctgtt ctc tcc gtc gac agg acc ttcc aggtt cag aag ttcc ggtt cag cgg ctgtt Leu Leu Ser Val Asp Arg Thr Phe Arg Gln Lys Phe Gly Gln Arg Leu	479
145 150 155	
gcc gccc gtgtt ggg cag tac ctgtt gag cag agg ttcc ggg agc gcc cag gac Ala Ala Val Gly Gln Tyr Leu Glu Gln Arg Phe Gly Ser Ala Gln Asp	527
160 165 170 175	
gtgtt gag ggc tgc atgtt gtc ttgg gaa gac atc tac ata gtgtt cag agc atgtt Val Glu Gly Cys Met Val Trp Glu Asp Ile Tyr Ile Val Gln Ser Met	575
180 185 190	
ccaa caa ccgtt tag agtcatccgt aataatgttt agatgagcaa agttttggtt Pro Gln Pro Leu	630
195	
ggtaaaataa aatttgcga aaatccatg gcaaaataag tcaggtatga agagccgc tgcgaaacca actgattcta aataatgttt tgaattcgtt tttaaattat gggacgtgaa	690
caatgatttc cttggaatgc atgcattgtt aaaaaaaaaaaaaaaaaaaaaaaa	750
807	
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<212> PRT	
<213> Hordeum vulgare	
<400> 10	

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Ala Arg Gly Val Leu Pro Asn Val Ser Leu Ser Asp Pro Thr Asn Phe
 1 5 10 15

Gly Ser Ala Val Ala Arg Val Trp Ala Ser Leu Tyr Thr Arg Arg Ala
 20 25 30

Ile Leu Ser Arg Arg Val Ala Gly Val Pro Gln Arg Asp Ala Lys Met
 35 40 45

Ala Val Leu Val Gln Glu Met Leu Glu Pro Glu Leu Ser Phe Val Leu
 50 55 60

His Thr Val Ser Pro Ser Asp His Asp Thr Arg Val Val Glu Ala Glu
 65 70 75 80

Val Ala Pro Gly Leu Gly Glu Thr Leu Ala Ala Gly Thr Arg Gly Thr
 85 90 95

Pro Trp Arg Leu Ser Cys Asp Lys Phe Asp Thr Asp Val Ala Thr Leu
 100 105 110

Ala Phe Ala Asn Phe Ser Glu Glu Met Arg Val Leu Gly Ser Gly Pro
 115 120 125

Ala Asp Gly Glu Val Val Arg Leu Thr Val Asp Tyr Ser Thr Lys Leu
 130 135 140

Leu Ser Val Asp Arg Thr Phe Arg Gln Lys Phe Gly Gln Arg Leu Ala
 145 150 155 160

Ala Val Gly Gln Tyr Leu Glu Gln Arg Phe Gly Ser Ala Gln Asp Val
 165 170 175

Glu Gly Cys Met Val Trp Glu Asp Ile Tyr Ile Val Gln Ser Met Pro
 180 185 190

Gln Pro Leu
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<210> 11

<211> 9

<212> PRT

<213> Solanum tuberosum

<400> 11

Pro Glu Glu Cys Lys Ala Val Gly Asn
 1 5

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<210> 12

<211> 7

<212> PRT

<213> Solanum tuberosum

<400> 12

Thr Glu Glu Tyr Ser Glu Thr
1 5

<210> 13

<211> 7

<212> PRT

<213> Solanum tuberosum

<400> 13

Arg Phe Val Asn Ala Val Glu
1 5

<210> 14

<211> 7

<212> PRT

<213> Solanum tuberosum

<400> 14

Glu Gly Ser Glu Asp Gly Lys
1 5

<210> 15

<211> 403

<212> DNA

<213> Solanum tuberosum

<220>

<221> CDS

<222> (1)..(402)

<223>

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

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 Ala Asp Ala Ser Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile
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 ggg ctt gaa gac tat gca ttt gtt ctt ttg agc agg ttt gtg aat gca 96
 Gly Leu Glu Asp Tyr Ala Phe Val Leu Leu Ser Arg Phe Val Asn Ala
 20 25 30
 gtt gaa gct cta ggc gga gct gat tgg ctt gca gag aat gta aca gtc 144
 Val Glu Ala Leu Gly Ala Asp Trp Leu Ala Glu Asn Val Thr Val
 35 40 45
 aaa aac att agt tct tgg aat gat cca att gga gca ctt aca gtt gga 192
 Lys Asn Ile Ser Ser Trp Asn Asp Pro Ile Gly Ala Leu Thr Val Gly
 50 55 60
 atc caa cag cta ggt ata tct ggt tgg aag ccc gag gaa tgc aaa gct 240
 Ile Gln Gln Leu Gly Ile Ser Gly Trp Lys Pro Glu Glu Cys Lys Ala
 65 70 75 80
 gtt gga aat gaa ctt ttg tca tgg aaa gaa agg ggt att tca gaa att 288
 Val Gly Asn Glu Leu Leu Ser Trp Lys Glu Arg Gly Ile Ser Glu Ile
 85 90 95
 gaa ggc agc gaa gat ggt aag act ata tgg gca tta aga cta aaa gcg 336
 Glu Gly Ser Glu Asp Gly Lys Thr Ile Trp Ala Leu Arg Leu Lys Ala
 100 105 110
 act ctt gat aga agt cga agg tta act gag gag tat tcc gag aca ctt 384
 Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu Thr Leu
 115 120 125
 ctc caa ata ttc cct gaa a 403
 Leu Gln Ile Phe Pro Glu
 130

<210> 16

<211> 134

<212> PRT

<213> Solanum tuberosum

<400> 16

Ala Asp Ala Ser Ile Ala Met Arg Gln Lys Trp Arg Leu Cys Glu Ile 48
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Gly Leu Glu Asp Tyr Ala Phe Val Leu Leu Ser Arg Phe Val Asn Ala 96
 20 25 30

Val Glu Ala Leu Gly Gly Ala Asp Trp Leu Ala Glu Asn Val Thr Val 144
 35 40 45

Lys Asn Ile Ser Ser Trp Asn Asp Pro Ile Gly Ala Leu Thr Val Gly 192
 50 55 60

Ile Gln Gln Leu Gly Ile Ser Gly Trp Lys Pro Glu Glu Cys Lys Ala 240

65 BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25
70 75 80

Val Gly Asn Glu Leu Leu Ser Trp Lys Glu Arg Gly Ile Ser Glu Ile
85 90 95

Glu Gly Ser Glu Asp Gly Lys Thr Ile Trp Ala Leu Arg Leu Lys Ala
100 105 110

Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu Thr Leu
115 120 125

Leu Gln Ile Phe Pro Glu
130

<210> 17

<211> 7

<212> PRT

<213> Sorghum bicolor

<400> 17

Asp Gly Gly His His Arg Pro
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<210> 18

<211> 8

<212> PRT

<213> Sorghum bicolor

<400> 18

Asp Ala Pro Asp Ser Ala Ile Ala
1 5

<210> 19

<211> 9

<212> PRT

<213> Sorghum bicolor

<400> 19

Ile Pro Glu Asn Ser Val Arg Thr Tyr
1 5

<210> 20

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<211> 6

<212> PRT

<213> Sorghum bicolor

<400> 20

Val Asn Lys Ala Asp Gly
1 5

<210> 21

<211> 1526

<212> DNA

<213> Sorghum bicolor

<220>

<221> CDS

<222> (2)..(1525)

<223>

<400> 21

g cac gag gct gaa tat gtt cat gat cag agt cac ctg gag gct ctt aca
His Glu Ala Glu Tyr Val His Asp Gln Ser His Leu Glu Ala Leu Thr
1 5 10 15

49

tat tct gca ata tat cta aag tgg ata tat act ggt caa ata cca tgc
Tyr Ser Ala Ile Tyr Leu Lys Trp Ile Tyr Thr Gly Gln Ile Pro Cys
20 25 30

97

ttt gag gat ggt ggt cac cat cga ccc aat aaa cat gct gag ata tcc
Phe Glu Asp Gly Gly His His Arg Pro Asn Lys His Ala Glu Ile Ser
35 40 45

145

agg caa att ttt cgt gaa att gaa agg ata tac tat ggg gaa aac aca
Arg Gln Ile Phe Arg Glu Ile Glu Arg Ile Tyr Tyr Gly Glu Asn Thr
50 55 60

193

tca gct cag gat ttg ctt gtg ata cgc aag att cat cct tgt cta cct
Ser Ala Gln Asp Leu Leu Val Ile Arg Lys Ile His Pro Cys Leu Pro
65 70 75 80

241

tca ttt aaa tca gaa ttt act gcc tct gtt cct cta aca cga att cgt
Ser Phe Lys Ser Glu Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg
85 90 95

289

gat att gct cat cgt aat gac ata cca cat gat ctc aag caa gaa atc
Asp Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile
100 105 110

337

aag cat act ata caa aac aag ctt cac cgg aat gcc ggc cct gag gat
Lys His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp
115 120 125

385

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

ctt att gct act gaa gcc atg ctt gct agg att act aag act cct gga	433
Leu Ile Ala Thr Glu Ala Met Leu Ala Arg Ile Thr Lys Thr Pro Gly	
130 135 140	
gag tac agt gaa gct ttt gtt gaa caa ttc aag acg ttt tat agt gaa	481
Glu Tyr Ser Glu Ala Phe Val Glu Gln Phe Lys Thr Phe Tyr Ser Glu	
145 150 155 160	
tta aaa gat ttc ttc aat gct ggc agc cta ctg gag caa gto caa tcc	529
Leu Lys Asp Phe Phe Asn Ala Gly Ser Leu Leu Glu Gln Val Gln Ser	
165 170 175	
atc gag caa tct ttg gat gag tct ggc tta gaa gct ctc tca tcc ttt	577
Ile Glu Gln Ser Leu Asp Glu Ser Gly Leu Glu Ala Leu Ser Ser Phe	
180 185 190	
ctg aaa acc aaa aag aat tta gac caa ctg gaa gat gca aaa gat ttg	625
Leu Lys Thr Lys Asn Leu Asp Gln Leu Glu Asp Ala Lys Asp Leu	
195 200 205	
gat gaa aat ggt ggc gtt caa gtt ttg ttg aaa gcc ttg ctg tcg tta	673
Asp Glu Asn Gly Gly Val Gln Val Leu Leu Lys Ala Leu Leu Ser Leu	
210 215 220	
tct tat cta aga tca att cta atg aag ggt ctg gaa agt ggc ctt aga	721
Ser Tyr Leu Arg Ser Ile Leu Met Lys Gly Leu Glu Ser Gly Leu Arg	
225 230 235 240	
aat gat gct cca gat agt gct att gca atg cga caa aag tgg cgt ctt	769
Asn Asp Ala Pro Asp Ser Ala Ile Ala Met Arg Gln Lys Trp Arg Leu	
245 250 255	
tgt gag atc ggg ctt gaa gat tat tcg ttt gta ttg tta agt aga tac	817
Cys Glu Ile Gly Leu Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Tyr	
260 265 270	
atc aat gct ctt gaa gct ttg ggt gga tca gct tca ctt gca gag ggt	865
Ile Asn Ala Leu Glu Ala Leu Gly Gly Ser Ala Ser Leu Ala Glu Gly	
275 280 285	
ctt cct aca aat aca agt cta tgg gat gat gcc ctt gat gcc ctt gtc	913
Leu Pro Thr Asn Thr Ser Leu Trp Asp Asp Ala Leu Asp Ala Leu Val	
290 295 300	
att ggc ata aat caa gtt agc ttt tca gga tgg aaa cca aat gag tgt	961
Ile Gly Ile Asn Gln Val Ser Phe Ser Gly Trp Lys Pro Asn Glu Cys	
305 310 315 320	
act gca ata gtg aat gag ctt ctt tct tgg aag cag aaa ggt cta tct	1009
Thr Ala Ile Val Asn Glu Leu Leu Ser Trp Lys Gln Lys Gly Leu Ser	
325 330 335	
gaa ttt gaa ggc agt gag gat gga aag tat att tgg gca ctg aga ctc	1057
Glu Phe Glu Gly Ser Glu Asp Gly Lys Tyr Ile Trp Ala Leu Arg Leu	
340 345 350	
aaa gcc act ctt gat aga tca cga aga cta aca gaa gaa tac tct gaa	1105
Lys Ala Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu	
355 360 365	
gca ctt ctt tct ata ttt cct gaa aaa gtc aag gtt ctt ggg aaa gcc	1153
Ala Leu Leu Ser Ile Phe Pro Glu Lys Val Lys Val Leu Gly Lys Ala	
370 375 380	
ctt gga ata cca gag aac agt gtg aga aca tac act gaa gct gaa att	1201
Leu Gly Ile Pro Glu Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile	
385 390 395 400	

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25
 cgt gct ggt gtt att ttt cac gtc tcg aaa ctt tgc act gta ctt tta 1249
 Arg Ala Gly Val Ile Phe His Val Ser Lys Leu Cys Thr Val Leu Leu
 405 410 415
 aaa gca act cga gca gtt ctt gga tcg tct gtg tgg gat gtt ctt gtt 1297
 Lys Ala Thr Arg Ala Val Leu Gly Ser Ser Val Trp Asp Val Leu Val
 420 425 430
 cct gga gtg gcc cat gga gcc ttg ata cag gtt gaa aga ata gct cct 1345
 Pro Gly Val Ala His Gly Ala Leu Ile Gln Val Glu Arg Ile Ala Pro
 435 440 445
 gga tca ttg cca tca tcc atc aaa gaa cct gtc gtg cta gtt gta aac 1393
 Gly Ser Leu Pro Ser Ser Ile Lys Glu Pro Val Val Leu Val Val Asn
 450 455 460
 aag gct gat gga gat gaa gag gtc aaa gct gct ggg gat aac ata gtg 1441
 Lys Ala Asp Gly Asp Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val
 465 470 475 480
 ggt gtt att ctt cta caa gaa tta cct cac cta tca cat ctt ggt gtt 1489
 Gly Val Ile Leu Leu Gln Glu Leu Pro His Leu Ser His Leu Gly Val
 485 490 495
 aga gct cgt caa gag aaa gtt gta ttt gta act tgc g 1526
 Arg Ala Arg Gln Glu Lys Val Val Phe Val Thr Cys
 500 505

<210> 22

<211> 508

<212> PRT

<213> Sorghum bicolor

<400> 22

His Glu Ala Glu Tyr Val His Asp Gln Ser His Leu Glu Ala Leu Thr
 1 5 10 15

Tyr Ser Ala Ile Tyr Leu Lys Trp Ile Tyr Thr Gly Gln Ile Pro Cys
 20 25 30

Phe Glu Asp Gly Gly His His Arg Pro Asn Lys His Ala Glu Ile Ser
 35 40 45

Arg Gln Ile Phe Arg Glu Ile Glu Arg Ile Tyr Tyr Gly Glu Asn Thr
 50 55 60

Ser Ala Gln Asp Leu Leu Val Ile Arg Lys Ile His Pro Cys Leu Pro
 65 70 75 80

Ser Phe Lys Ser Glu Phe Thr Ala Ser Val Pro Leu Thr Arg Ile Arg
 85 90 95

Asp Ile Ala His Arg Asn Asp Ile Pro His Asp Leu Lys Gln Glu Ile
 100 105 110

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Lys His Thr Ile Gln Asn Lys Leu His Arg Asn Ala Gly Pro Glu Asp
115 120 125

Leu Ile Ala Thr Glu Ala Met Leu Ala Arg Ile Thr Lys Thr Pro Gly
130 135 140

Glu Tyr Ser Glu Ala Phe Val Glu Gln Phe Lys Thr Phe Tyr Ser Glu
145 150 155 160

Leu Lys Asp Phe Phe Asn Ala Gly Ser Leu Leu Glu Gln Val Gln Ser
165 170 175

Ile Glu Gln Ser Leu Asp Glu Ser Gly Leu Glu Ala Leu Ser Ser Phe
180 185 190

Leu Lys Thr Lys Lys Asn Leu Asp Gln Leu Glu Asp Ala Lys Asp Leu
195 200 205

Asp Glu Asn Gly Gly Val Gln Val Leu Leu Lys Ala Leu Leu Ser Leu
210 215 220

Ser Tyr Leu Arg Ser Ile Leu Met Lys Gly Leu Glu Ser Gly Leu Arg
225 230 235 240

Asn Asp Ala Pro Asp Ser Ala Ile Ala Met Arg Gln Lys Trp Arg Leu
245 250 255

Cys Glu Ile Gly Leu Glu Asp Tyr Ser Phe Val Leu Leu Ser Arg Tyr
260 265 270

Ile Asn Ala Leu Glu Ala Leu Gly Gly Ser Ala Ser Leu Ala Glu Gly
275 280 285

Leu Pro Thr Asn Thr Ser Leu Trp Asp Asp Ala Leu Asp Ala Leu Val
290 295 300

Ile Gly Ile Asn Gln Val Ser Phe Ser Gly Trp Lys Pro Asn Glu Cys
305 310 315 320

Thr Ala Ile Val Asn Glu Leu Leu Ser Trp Lys Gln Lys Gly Leu Ser
325 330 335

Glu Phe Glu Gly Ser Glu Asp Gly Lys Tyr Ile Trp Ala Leu Arg Leu
340 345 350

Lys Ala Thr Leu Asp Arg Ser Arg Arg Leu Thr Glu Glu Tyr Ser Glu
355 360 365

Ala Leu Leu Ser Ile Phe Pro Glu Lys Val Lys Val Leu Gly Lys Ala
370 375 380

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

Leu Gly Ile Pro Glu Asn Ser Val Arg Thr Tyr Thr Glu Ala Glu Ile
385 390 395 400

Arg Ala Gly Val Ile Phe His Val Ser Lys Leu Cys Thr Val Leu Leu
405 410 415

Lys Ala Thr Arg Ala Val Leu Gly Ser Ser Val Trp Asp Val Leu Val
420 425 430

Pro Gly Val Ala His Gly Ala Leu Ile Gln Val Glu Arg Ile Ala Pro
435 440 445

Gly Ser Leu Pro Ser Ser Ile Lys Glu Pro Val Val Leu Val Val Asn
450 455 460

Lys Ala Asp Gly Asp Glu Glu Val Lys Ala Ala Gly Asp Asn Ile Val
465 470 475 480

Gly Val Ile Leu Leu Gln Glu Leu Pro His Leu Ser His Leu Gly Val
485 490 495

Arg Ala Arg Gln Glu Lys Val Val Phe Val Thr Cys
500 505

<210> 23

<211> 8

<212> PRT

<213> Triticum aestivum

<400> 23

Arg Asn Asp Ala Thr Asp Ala Gly
1 5

<210> 24

<211> 8

<212> PRT

<213> Triticum aestivum

<400> 24

Gly Asn Thr Ser Val Trp Asp Asp
1 5

<210> 25

<211> 509

BCS 04-501-PCT_SEQUENZPROTOKOLL_Verfahren zur Identifizierung.ST25

<213> *Triticum aestivum*

<400> 26

Asn Gly Ala Phe Val Glu Gln Phe Gln Ile Phe Tyr Ser Glu Leu Lys
1 5 10 15Asp Phe Phe Asn Ala Gly Ser Leu Phe Glu Gln Leu Glu Ser Ile Lys
20 25 30Glu Ser Leu Asn Asp Ser Gly Leu Glu Ala Leu Ser Ser Phe Val Lys
35 40 45Thr Lys Gln Ser Leu Asp Gln Val Asp Ala Ala Asn Ile Gln Val Val
50 55 60Met Lys Thr Leu Gln Ser Leu Ser Ser Leu Arg Ser Val Leu Met Lys
65 70 75 80Gly Leu Glu Ser Gly Leu Arg Asn Asp Ala Thr Asp Ala Gly Ile Ala
85 90 95Met Arg Gln Lys Trp Arg Leu Cys Glu Ile Gly Leu Glu Asp Tyr Ser
100 105 110Phe Val Leu Leu Ser Arg Tyr Ile Asn Gly Leu Glu Ala Ser Gly Gly
115 120 125Ser Ala Ser Leu Ala Gln Cys Val Ala Gly Asn Thr Ser Val Trp Asp
130 135 140Asp Thr Leu Asp Ala Leu Ile Ile Gly Val Asn Gln Val Ser Phe Ser
145 150 155 160Gly Trp Lys Pro Glu Glu Cys Ile Ala
165